

What is claimed is:

1. A method of regenerating an ion exchange resin, comprising the steps of:

5 packing a used ion exchange resin in a regeneration tower; and

10 repeating at least twice a step comprising passing an aqueous solution of regenerant through the regeneration tower downward from a top part of the regeneration tower and thereafter passing ultra-pure water through the regeneration tower upward from a bottom of the regeneration tower.

15 2. The method as claimed in claim 1, wherein the aqueous solution of regenerant is passed downward at a space velocity of 1 to 5 hr^{-1} while the ultra-pure water is passed upward at a space velocity of 10 to 30 hr^{-1} .

20 3. The method as claimed in claim 1, wherein, in the regeneration tower, parts brought into contact with the ion exchange resin, the regenerant and the ultra-pure water are composed of a fluoro-resin, a vinyl chloride resin or a polyolefin resin.

25 4. The method as claimed in claim 2, wherein, in the regeneration tower, parts brought into contact with the ion exchange resin, the regenerant and the ultra-

~~water are composed of a thermoplastic resin or a~~